Institute of Science and Technology Austria (ISTA)
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Postdoc Research Group Freunberger: Singlet oxygen in electrocatalysis

- Klosterneuburg (Vienna), Austria
- € 69'188* gross/year

The group of Stefan Freunberger (group website) is looking for an outstanding postdoctoral researcher interested working on a frontier topic of O_2 electrocatalysis at the Institute of Science and Technology Austria. OER and ORR are both fundamental to energy storage in life and technological solutions and therefore amongst the most studied reactions in chemistry. However, the vast majority of works has considered ground state triplet O_2. However, reactions involving singlet oxygen may kinetically be favoured but have received only little attention in research. E.g., there is not a single experimental report on ORR involving $^1O_2$ do date. For the OER, $^1O_2$ generation may be favoured for both conventional and catalysts involving lattice oxygen redox. Our group, together with others, has shaped the topic and knowledge of $^1O_2$ in non-aqueous redox chemistry [1].[2],[3]. The aim of the post is to close critical knowledge gaps on the involvement of $^1O_2$ in electrocatalysis. The project is performed within the Austrian Science Fund funded Cluster of Excellence MECS.
We have previously established the now widely adopted methods for $^1O_2$ detection in non-aqueous electrochemistry. We shall expand these methods and apply them to *in-situ* electrochemistry, complemented by a suite of *in/ex-situ* methods. To gain a deeper theoretical understanding, we will collaborate with groups specialized in quantum chemical calculations.

Your profile

- PhD in Chemistry, Materials Science, or Chemical Engineering or related field
- Commitment to research excellence with a proven relevant track record in leading journals
- Experience in physical chemistry, electrochemistry, and coupled spectroscopic, diffractive, and microscopic techniques
- Experience in electrocatalysis, ideally also O_2 electrochemistry
- Experience in time resolved spectroscopy and quantum chemical methods is a strong plus

Application documents: Please send a single pdf document containing your cover letter, CV, publication list, and contact information of 2 to 3 references.
To submit your application please email: stefan.freunberger@ist.ac.at. Please use the position name above as your subject line.

ISTA is growing. Grow with us!
The Institute of Science and Technology Austria (ISTA) is a growing international institute for conducting frontier research in mathematics, computer science, and the life and physical sciences. We recruit passionate professionals from all over the world and from all fields who support our goals of excellence in research and science management. Located on a beautiful campus on the outskirts of Vienna, we offer numerous opportunities for personal growth in a stable working environment. Get an insight!

* This position comes with possible overpayment depending on education, qualification and work experience. ISTA processes your personal data in accordance with the law. For more information, please refer to www.ista.ac.at/data-protection.